

**IN THE SPECIFICATION:**

Please substitute the attached sections or paragraphs of pages 9, 10, 11 and 12 for the relevant sections or paragraphs of pages 9, 10, 11 and 12 of record.

## Section 4 of Page 9 of Specification:

### 1.1.1) Start loop for the attenuator element (k)

$$\sigma_a + \sigma_a + Z_{(k)} \times \sigma_a$$

$$\sigma_{PE(i,j,k)} \quad \sigma_{PP(i,j,k)} \quad \sigma_{C(i,j,k)}$$

~~$$\mu_{a(i,j,k)} = [\sigma_{PE(i,j,k)} + \sigma_{PP(i,j,k)} + Z_{(k)} \times \sigma_{C(i,j,k)}] \times \rho_{(k)} \times A_v / A_{(k)}$$~~

$$\mu_{a(i,j,k)} = [\sigma_{PE(i,j,k)} + \sigma_{PP(i,j,k)} + Z_{(k)} \times \sigma_{C(i,j,k)}] \times \rho_{(k)} \times A_v / A_{(k)}$$


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where:  $\sigma_{PE(i,j,k)}$  = effective photoelectric absorption cross-section

$\sigma_{C(i,j,k)}$  = Compton effective absorption cross-section

**Section 2 of Page 10 of Specification:**

$$\mu_a^{(NaI)} = PE^{(NaI)} + Z_{(NaI)} \times \sigma_a^{(NaI)} \times \frac{A_v}{A_{(NaI)}} \times \dot{n}_{(NaI)}$$

$$\mu_a^{(NaI)} = [\sigma_a^{(NaI)} + Z_{(NaI)} \times \sigma_a^{(NaI)}] \times \frac{A_v}{A_{(NaI)}} \times \rho(NaI)$$

## Section 2 of Page 11 of Specification

$$\sigma_{\text{dif}_{C(j')}}(\text{NaI}) \times z_{(\text{NaI})} \times \text{Final flux}_{(i,j',k)} \times A_v \times p_{(\text{NaI})} \times$$

$$-A_{(\text{NaI})}$$

$$\sigma_{\text{dif}_{C(j')}}(\text{NaI}) \times z_{(\text{NaI})} \times \text{Final flux}_{(i,j,k)(i,j',k)} \times A_v \times p_{(\text{NaI})} \times$$


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$$A_{(\text{NaI})}$$


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## Section 2 of Page 12 of Specification

$$= \frac{\sigma_{\text{dif}_{C(\gamma)}}(\text{NaI}) \times Z_{(\text{NaI})} \times \text{final flux}_{(i,j,k)} \times A_v \times \rho_{(\text{NaI})} \times X_{(\text{NaI})}}{A_{(\text{NaI})}}$$

where:  $\sigma_{\text{dif}_{C(\gamma)}}(\text{NaI})$  = effective Compton front scattering cross-section

$$= \frac{\sigma_{\text{dif}_{C(\gamma)}}(\text{NaI}) \times Z_{(\text{NaI})} \times \text{final flux}_{(i,j,k)} \times A_v \times \rho_{(\text{NaI})} \times X_{(\text{NaI})}}{A_{(\text{NaI})}}$$

where:  $\sigma_{\text{dif}_{C(\gamma)}}(\text{NaI})$  = effective Compton front scattering cross-section

## Section 5 of Page 12 of Specification

$$= \sigma_{\text{dif}_{\text{CG}}}(\text{NaI}) \times Z_{(\text{NaI})} \times \text{final flux}_{(i,j,k)} \times \frac{A_v \times p_{(\text{NaI})} \times \underline{xp_{(\text{NaI})}} \times X_{(\text{NaI})}}{A_{(\text{NaI})}}$$

where:  $\sigma_{\text{dif}_{\text{CG}}} =$  effective Compton background scattering cross-section.